

# The Danish Biogas experience

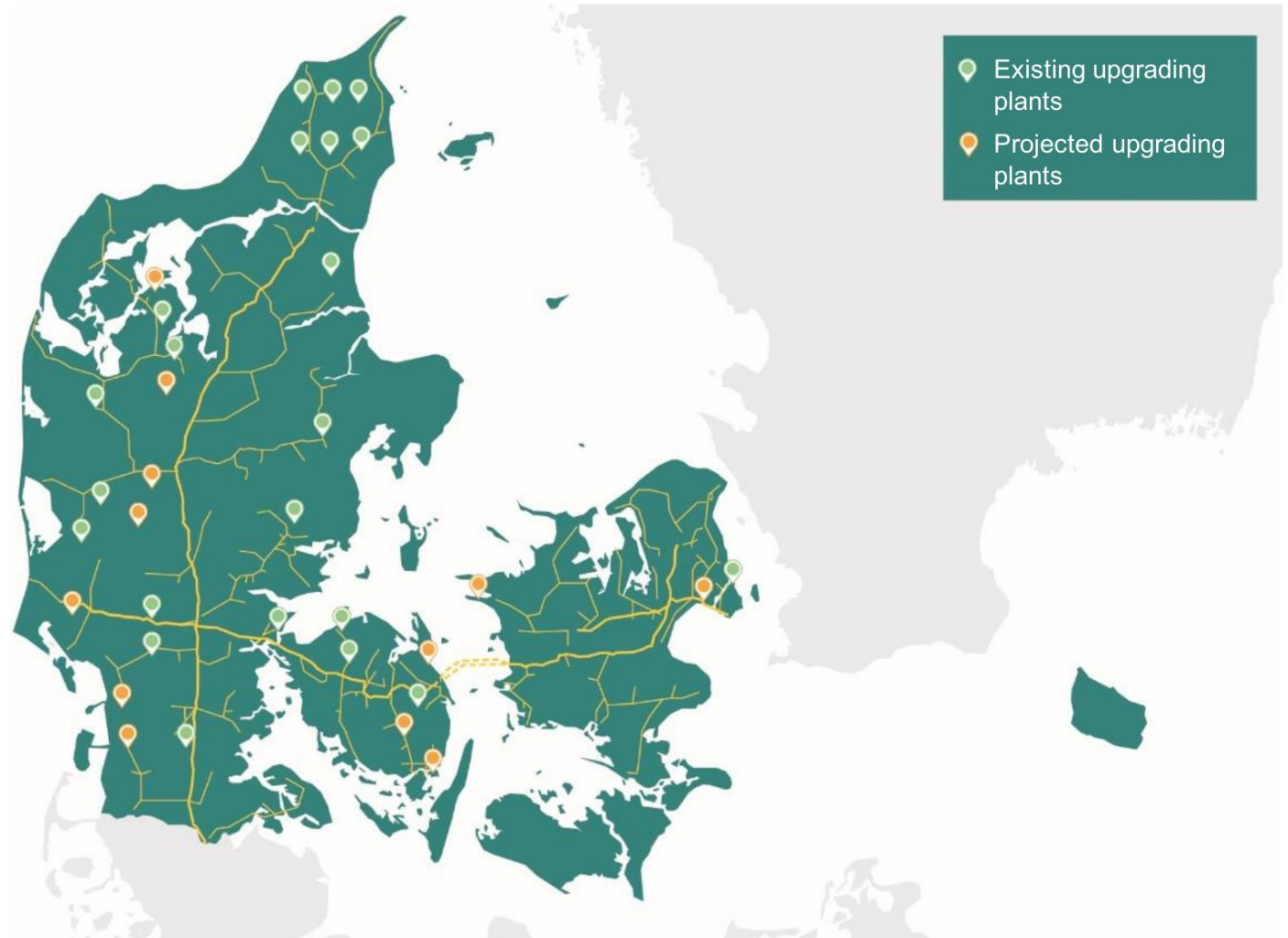
Energy Breakfast Discussion



24-04-2019

# Large potential for biomethane

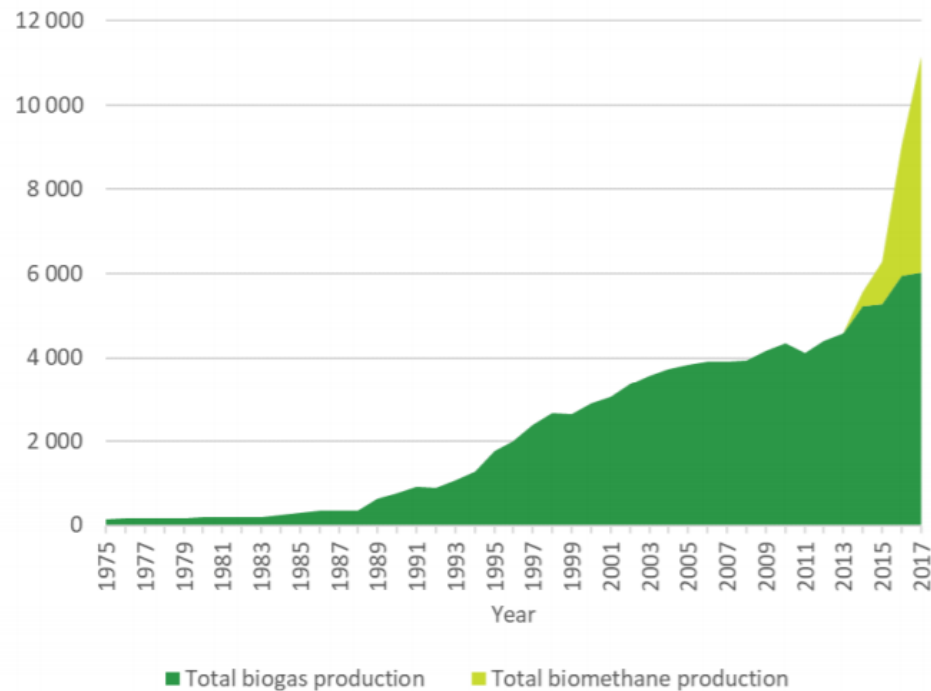
- Historically a net exporter of natural gas
- Well developed gas grid covering most of the country
- Large livestock populations
- Ambitious targets: Fossil-free in 2050
- Generous subsidy schemes
- Bioblend obligations in transportation fuel sector
- Potential to replace natural gas completely by 2050



Presentation at Green Gas Forum, September 19, 2018 by  
Thomas Egebo, CEO of Energinet.

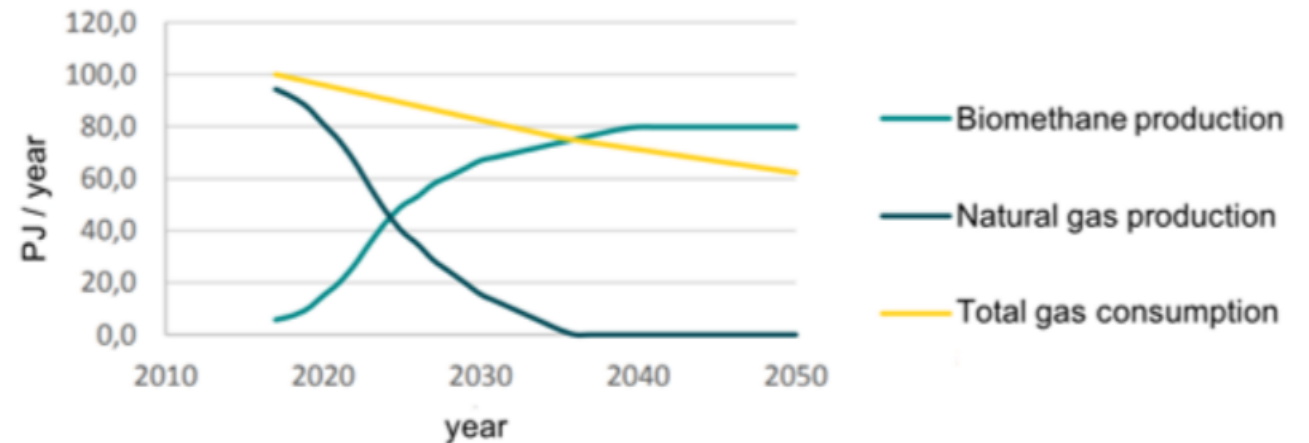
# Development of the Danish biogas industry

Biogas and biomethane production in Denmark (in TJ<sub>LHV</sub>)



Source: Energistyrelsen (2018).

Danish gas production and consumption as projected by the Danish gas industry, 2010-2050e



Source: Grøn Gas Danmark, 2018, translated by Fremsyn.



# Cost reductions and passed barriers

- Limited demand in local distribution grids – recompression upstream by system operators
- Foreign objects in biomasses – better technologies and better defined contracts
- Bad mixing of straw and deep litter – better pre-treatment technologies
- H<sub>2</sub>S removal – bioscrubbers instead of iron hydroxide
- Poor operation – professional operators instead of farmers

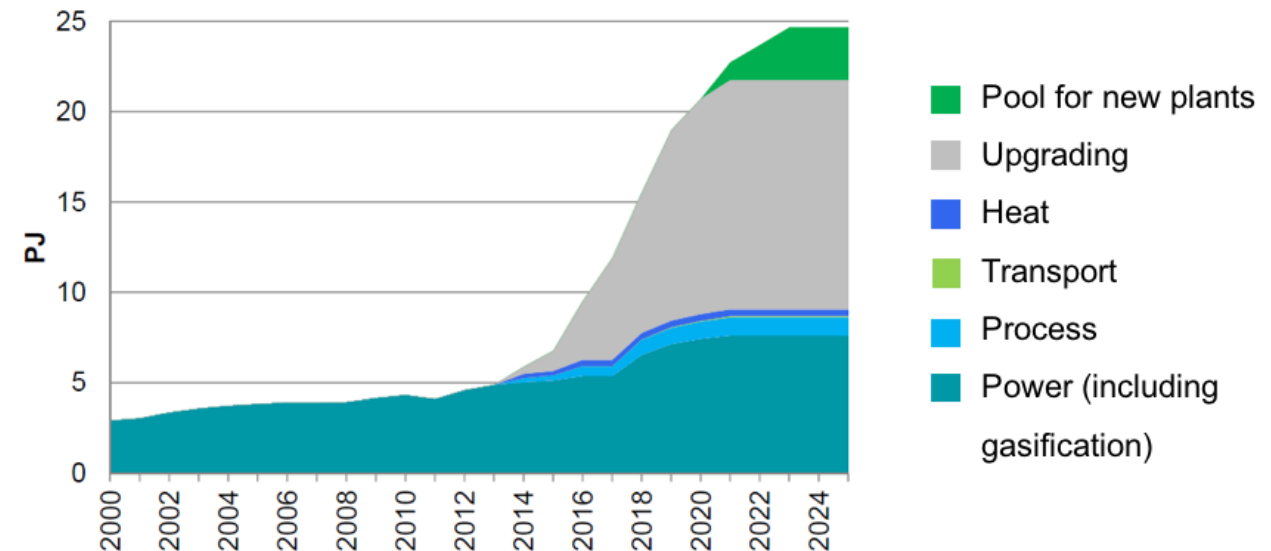


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# Existing barriers hampering the development

- Tender based subsidy with limited funds (32 million EUR)
- Neighbour complaints halting new biogas plants
- Environmental organisations worried about methane losses
- Biomethane is recognised as fossil fuel in tax system
- Possible ban on bio-CNG busses from 2025 due to EV favoring
- Increasing taxes in transportation sector
- Financing of connection plant due to transfer of ownership
- Increasing costs of connection plants

**The Energy Agreement – projected development of gas production**





# Thank you for the attention

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